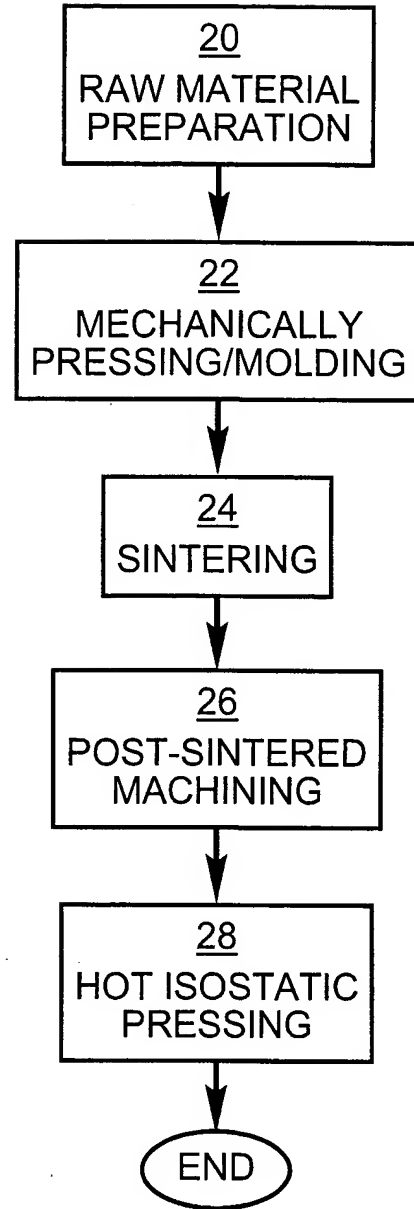


**Fig. 1**



**Fig. 2**

**FIG. 3**  
Monoclinic Phase Growth in 127°C Steam  
High-Purity Dense 3 m/o Ytria Tetragonal Zirconium Oxide Polycrystal (Y-TZP) for Surgical Implant Applications

Source	Monoclinic Volume Fraction on surface (As Supplied), (M1)	Actual Exposure Time in 127°C Steam	Equivalent Exposure Time at 37°C (hours; years)	Monoclinic Volume Fraction After Soaking (M2)	Average Conversion Rate (%/hour)	Estimated Monoclinic Conversion After 6 hours Exposure	Actual Exposure Time until Spontaneous Flaking in 127°C Steam (hours)	Actual Exposure Time until Spontaneous Destruction in 127°C Steam (hours)	Projected Exposure Time until Spontaneous Flaking at 37°C (years)	Projected Exposure Time until Spontaneous Destruction at 37°C (years)
C (2mm dia.)	2.8%	12 hours	6144; 0.70	13.3%	0.88%	5.3%	78	171	4.6	10.0
C* (2mm dia.)	5.8%	15 hours	7680; 0.88	12.8%	0.47%	2.8%	124	137	7.3	8.0
C (2mm dia.)	3.0%	17 hours	8704; 0.99	16.2%	0.78%	4.7%	95	230	5.6	13.5
Q (2mm dia.)	1.7%	18 hours	9216; 1.1	7.8%	0.34%	2.0%	-	-	-	-
H (3mm dia.)	9.7%	24 hours	12288; 1.40	30.0%	0.86%	5.2%	522	643	30.5	37.6
H (3mm dia.)	8.3%	24 hours	12288; 1.40	37.3%	1.2%	7.2%	264	394	15.4	23.1
M (2mm dia.)	2.2%	18 hours	9216; 1.1	3.1%	0.05%	0.3%	>1360	>1360	>80	>80
M (3mm dia.)	1.2%	18 hours	9216; 1.1	2.0%	0.04%	2.0%	>1360	>1360	>80	>80

\* Surface finish rougher than other C tubes